

INDEX TO VOLUME 15 OF THE JOURNAL OF THE
FISHERIES RESEARCH BOARD OF CANADA

A

- Absorption spectra
 - 4: 695 (of cod and redfish muscle extract)
- Abundance
 - 1: 5 (sea-lions)
 - 1: 19 (estimation by marking)
- Acanthocephala
 - 5: 983 (in Pacific salmon)
- Acclimation
 - 6: 1189 (of scallops to temperature)
 - 6: 1345 (of lobsters to temperature)
- Acids, fatty
 - 4: 555 (in salt cod phospholipids)
- Activity
 - 6: 1345 (of lobsters, in relation to temperature)
- Actomyosin (*see* Myosin)
- Adaptation
 - 5: 815 (of salmon retina)
- Age
 - 6: 1229 (determination in haddock)
 - 6: 1239 (comparison of scale and otolith in haddock)
 - 6: 1269 (Atlantic halibut)
 - 6: 1313 (of smelt)
 - 6: 1383 (Gulf of St. Lawrence cod)
- Age composition
 - 5: 831 (for estimating mortality rate of lingcod)
 - 5: 867 (Rivers Inlet sockeye, catch and escapement)
- Age determination
 - 6: 1313 (smelt)
- Alaska
 - 4: 625 (temperatures of air and water)
- Alaska gyral
 - 5: 855 (drift bottle observations)
- Alderice, Donald Francis
 - 2: 229 (salmon egg development with low oxygen)
 - 4: 587 (cruising speed of sockeye and coho)
 - 5: 797 (carbon dioxide and salmon egg development)

- 5: 805 (low temperature resistance of salmon)
- Ali, Mohamed Ather
 - 5: 815 (salmon retina)
- Ammocoetes
 - 1: 47
- Analysis, chemical (*see also* Limnology; Oceanography)
 - 4: 698 (percentage fat, protein, solids, in redfish fillet flesh)
- Analysis, statistical
 - 4: 717, 747 (of trimethylamine values in quality grading of fish)
- Anchovies (*Engraulis mordax*)
 - 5: 909 (characteristics of schools)
- Anniversary issues
 - 5: 759 (Biological Station, Nanaimo, B.C.)
 - 6: 1127 (Biological Station, St. Andrews, N.B.)
- Arctic, Canadian
 - 2: 155 (physical oceanography in eastern)
 - 6: 1175 (ice discoloration in Foxe Basin)
- Arctic Ocean
 - 5: 801 (Polychaeta of)
- Astaxanthin (*see* Pigment)
- Atlantic Ocean
 - 4: 495 (seal distribution in)

B

- Babine-Nilkitkwa Lake area, B.C.
 - 5: 771 (counting fence)
 - 5: 961 (distribution and abundance of young sockeye)
- Bailey, William Best
 - 6: 1163 (currents in Strait of Belle Isle)
- Baitworms
 - 6: 1153 (review of investigations)
- Bankia setacea* (*see* Shipworm)
- Banks, Russell Ewen
 - 1: 79 (surface water circulation over Scotian Shelf)
- Barkley Sound, B.C.
 - 5: 909 (juvenile herring in)

Bass, largemouth (*Micropterus salmoides*)

- 4: 607 (preferred temperature and vertical distribution)

Bass, striped (*Roccus saxatilis*)

- 4: 573 (hyperactivity and death)

Bates, Stewart

- 6: 1152

Bathymetry (see Oceanography)

Bay of Fundy

- 1: 1 (parasite of porpoises in)
- 2: 115 (tidal energy in waters of system)
- 6: 1213 (salmon of Minas Basin)
- 6: 1219 (zooplankton)
- 6: 1259 (fatness of small herring)
- 6: 1451 (larval herring in)

Beak, Thomas William

- 4: 559 (toleration of pollution by fish)

Bearded seal (*Erignathus barbatus*)

- 2: 219

Bell, Frederick Heward

- 4: 625 (ocean climates and fish yields)

Benthos

- 2: 203 (Heming L., Manitoba)

Bering Sea

- 4: 625 (cod catches)

Berkeley, Cyril J.

- 5: 765
- 5: 801 (Arctic Polychaeta)

Berkeley, Edith

- 5: 765
- 5: 801 (Arctic Polychaeta)

Black, Edgar Clark

- 4: 573 (hyperactivity as lethal factor)

Blackcod (*Anoplopoma fimbria*)

- 4: 625 (distribution and landings, in relation to temperature and fishery)

Bordeleau, Michel André

- 4: 555 (fatty acids of salt cod phospholipids)

Brett, John Roland

- 2: 229 (salmon egg development with low oxygen)
- 4: 587 (cruising speed of sockeye and coho)
- 5: 805 (low temperature resistance of salmon)
- 5: 815 (salmon retina)

British Columbia

- 1: 5 (sea-lions)
- 3: 313 (fecundity of herring)
- 4: 625 (temperatures of air and water)

C

Cabot Strait (see Laurentian Channel)

"Calanus" Series

- 2: 219 (Rept. No. 13)

Calder, Captain A. E.

- 6: 1133

California

- 1: 47 (lampreys in)

Campbell, Neil John

- 6: 1175 (discoloration of Foxe Basin ice)

Candling, of fillets

- 4: 537 (illumination conditions for parasite detection)

Capelin (*Mallotus villosus*)

- 3: 275, 295 (off Newfoundland)
- 6: 1383 (as food of cod)

Carbon dioxide

- 4: 573 (in blood of exercised fish)
- 5: 797 (effect on salmon eggs)

Cardin, Aimé

- 4: 555 (fatty acids of salt cod phospholipids)

Carp (*Cyprinus carpio*)

- 4: 607 (preferred temperature)

Carter, Neal Marshall

- 5: (i) (Foreword)
- 6: (i) (Foreword)

Castell, Charles Howell

- 4: 701, 729 (grading fish and fillets for quality)

Catchability

- 6: 1345 (of lobsters, in relation to temperature)

Catch per unit effort

- 6: 1345 (of lobsters, in relation to temperature)

Cestoda (tapeworms)

- 2: 203 (of fish in Heming L., Manitoba)

Chatwin, Bruce McLeod

- 5: 831 (lingcod mortality rates)

Chew, Kenneth Kendall

- 4: 529 (feeding of oyster drill)

Ciscoes (*Leucichthys*)

- 4: 607 (preferred temperature and vertical distribution in nature)

Clark, John Russell

- 6: 1239 (haddock scale-otolith comparisons)

Clams, Atlantic

- 6: 1141 (review of investigations)

Clams, Manila (*Venerupis*)4: 529 (as food for *Ocenebra*)Clams, soft-shelled (*Mya arenaria*)

6: 1355 (consumed by clam drills)

Clemens, Wilbur Amie

5: 764, 766, 767

5: 779 (Director's reminiscences)

Climate (*see also* Temperature)

4: 625 (of ocean, in relation to fish catches)

5: 867 (Rivers Inlet region)

6: 1213 (rainfall near Minas Basin)

Cod, Atlantic (*Gadus callarias*) (biology)4: 495 (in relation to *Porrocaecum*)

4: 573 (hyperactivity and death)

4: 625 (distribution and landings, in relation to temperature and fishery)

6: 1269 (relation of price to halibut fishery)

6: 1371 (mortality rates)

6: 1383 (reproduction and feeding)

Cod, Atlantic (technology)

2: 135 (myosin extraction from muscle)

4: 537 (illumination for candling fillets)

4: 543 (artificial drying of salt cod)

4: 555 (fatty acids in salt cod phospholipids)

4: 699 (abnormal flesh pigmentation)

4: 701, 717, 729 (grading fish and fillets for quality)

Cod, Pacific

4: 625 (catches and catch per unit effort)

Collin, Arthur Edwin Hodgson

6: 1175 (discoloration of Foxe Basin ice)

Colour (*see also* Pigment)

6: 1175 (discoloration of Arctic ice)

Competition

1: 27 (between native and planted trout)

Condensation (*see also* Evaporation)

Confidence limits

1: 19 (for population estimates)

Control

6: 1355 (attempted for clam drills)

Copepods

6: 1219 (in Bay of Fundy plankton)

Corynosoma (an acanthocephalan)

5: 983 (in Pacific salmon)

Cruising speed

4: 587 (of young salmon)

Crustacea

6: 1383 (in food of cod)

Cumberland Sound

2: 155 (physical oceanography)

Curing (*see also* Drying; Salt fish)

Current, water

3: 391 (reaction of young salmon to)

Currents, marine (*see also* Oceanography)

1: 78 (determination by drift bottles)

1: 91 (effects on shipworm incidence)

5: 851, 1065 (determination by drift bottles)

6: 1163 (dominant in Strait of Belle Isle)

D

Dab (*Limanda limanda*)

4: 573 (hyperactivity and death)

Dates

6: 1160 (in history of Biological Station, St. Andrews, N.B.)

DeLury, Daniel Bertrand

1: 19 (estimating population size)

Density, of water (*see also* Oceanography)

Development

3: 275 (of capelin)

Dickie, Lloyd Merlin

6: 1189 (temperature and scallop survival)

Dilution effect of rivers on sea water

1: 91 (incidence of shipworm, Fraser R. estuary)

5: 1097 (Fraser R. on Strait of Georgia)

Dingle, John Reginald

2: 135 (myosin extraction from cod muscle)

Director, reminiscences of

5: 779

Directors

5: 759 (of Biological Station, Nanaimo, B.C.)

5: 760 (C. W. Taylor)

5: 762 (C. McLean Fraser)

5: 764 (W. A. Clemens)

5: 766 (W. A. Clemens, D. B. Finn, R. E. Foerster)

5: 767 (W. A. Clemens, J. L. Hart)

5: 776 (R. E. Foerster, A. W. H. Needler)

6: 1131, 1135, 1152 (A. G. Huntsman)

6: 1135 (A. H. Leim)

6: 1147 (A. W. H. Needler)

6: 1155 (of Biological Station, St. Andrews, N.B.)

Distribution

- 1: 1 (ascarids in porpoises)
- 1: 5 (sea-lions in British Columbia)
- 2: 203 (fish of Heming L., Manitoba)
- 2: 219 (bearded seal)
- 3: 275 (capelin)
- 4: 495 (seals off eastern Canada)
- 4: 607 (of fish in lakes in summer)

Dixon Entrance (*see* Triple Is., B.C.)

Dodimead, Allan John

- 5: 851 (drift bottle releases in NE Pacific Ocean)

Drift, drift bottles (*see* Currents, marine)

Drill, greater clam (*Lunatia heros*)

- 6: 1355 (attempted control)

Drill, Japanese oyster (*Ocenebra japonica*)

- 4: 529 (feeding habits)

Drumming muscles

- 3: 355 (of haddock air-bladder)

Drying

- 4: 537 (salt fish by thermocouple control)

Dunbar, Maxwell John

- 2: 155 (physical oceanography in Canadian eastern Arctic, 1949-55)

Dymond, John Richardson

- 6: 1152

E

Eggs

- 3: 313 (number in herring)
- 5: 797 (effect of carbon dioxide on development of salmon)
- 6: 1383 (size in cod)

Eisler, Ronald

- 4: 529 (feeding of oyster drill)

Ellerslie, Prince Edward Island

- 6: 1140 (research station)
- 6: 1403 (trout movements)

Energy, heat and light (*see* Heat budget; Photosynthesis; Radiation)

Energy, tidal

- 2: 115 (in Bay of Fundy system)

Energy reserves

- 4: 573 (of fish)

Environmental factors

- 5: 991 (effect on yield)
- 5: 1103 (affecting salmon production)

Equilibrium yield

- 5: 831 (of lingcod)

Escapement

- 5: 1007 (of Skeena sockeye)

Estuaries

- 1: 91 (tidal effects on shipworm incidence, Fraser R.)
- 6: 1403 (movement of trout in and out of)

Ethology

- 3: 391 (Pacific salmon)

Evaporation and condensation

- 3: 434 (effect on heat budget of sea)

Eye, of salmon

- 5: 815 (morphology and sensitivity)

F

Fat (*see also* Acids, fatty)

- 4: 698 (percentage in rosefish fillet flesh)

Fatigue

- 4: 573 (in fish)

Fatness

- 6: 1259 (of small Fundy herring)

Fecundity

- 3: 313 (Pacific herring)
- 6: 1383 (cod)

Ferguson, Robert Gilmour

- 4: 607 (preferred temperatures of fish)

Fillets

- 4: 517 (quality of haddock)
- 4: 521 (haddock, Newfoundland; quality from round and gutted)
- 4: 537 (cod, Atlantic; illumination for candling)
- 4: 695 (rosefish, cod, haddock; abnormal flesh pigmentation)
- 4: 701, 717, 729 (cod and haddock; quality grading)

Finn, Donovan Bartley

- 5: 766

Fiords (*see* Inlets)

Fisher, Harold Dean

- 1: 1 (*Porrocaecum* in porpoises)
 - 4: 495 (*Porrocaecum* in seal stomachs)
- Fisheries Experimental Station, Prince Rupert, B.C.

- 5: 781

Fisheries Research Board of Canada
Biological Station, Nanaimo, B.C.

- 5: 759 (history and present activities)

Fisheries Research Board of Canada
Biological Station, St. Andrews, N.B.

- 6: 1127 (history and present activities)

Fishes

- 2: 203 (of Heming L., Manitoba)

Fishing mortality rate

- 6: 1371 (cod and haddock)

Fleming, Allister Melville

- 4: 517 (quantity and quality of haddock landings in Newfoundland)

Flesh

- 4: 695 (red, in redfish)

Fluctuations

- 4: 625 (various marine fishes)
- 6: 1213 (of Shubenacadie salmon)

Fluvium

- 4: 685 (for testing preferences of fish)

Foerster, Russel Earle

- 5: 766

Follet, Wilbur Irving

- 1: 47 (*Lampetra ayresii*)

Food

- 4: 529 (of oyster drill)
- 6: 1213 (of Shubenacadie salmon)
- 6: 1383 (of Gulf of St. Lawrence cod)

Food technology

- 6: 1137 (review of research, 1912-1934)

Foraminifera

- 6: 1186 (in mud and ice, Foxe Basin)

Foreword, Editors

- 5: (i) (precedes page 759)
- 6: (i) (precedes page 1127)

Foskett, Dudley Robert

- 5: 867 (Rivers Inlet sockeye)

Foxe Basin

- 2: 219 (bearded seal)
- 6: 1175 (ice colour in)

Fraser, Charles McLean

- 5: 762

Fraser River

- 1: 91 (tidal effects on shipworm incidence in estuary at Steveston)
- 5: 1097 (effect on Strait of Georgia oceanography)

Freshness (see Quality)

Frobisher Bay

- 2: 155 (physical oceanography)

G

Gaspé cure salt cod

- 4: 543 (artificial drying by thermocouple control)
- 4: 555 (fatty acids in phospholipids)

Georges Bank

- 6: 1451 (herring larvae and water temperature)

Girella (a fish)

- 4: 607 (preferred temperature)

Glacial silt

- 5: 867 (effect on salmon)

Glaciers

- 4: 625 (in relation to climate)

Godfrey, Harold

- 3: 331 (age of sockeye)
- 5: 891 (variations in salmon survival)

Goldfish (*Carassius auratus*)

- 4: 607 (preferred temperature)

Gorge Creek, Alberta

- 1: 27 (survival of trout)

Grading (see Quality)

Grand Bank of Newfoundland

- 3: 275, 295 (capelin)
- 3: 355 (haddock)

Greenough, Maxine Frances

- 4: 701, 729 (grading fish and fillets for quality)

Groundfish, Atlantic

- 6: 1148 (review of investigations)

Groundwater

- 5: 1027 (measuring seepage in gravel)

Growth

- 2: 219 (bearded seal)
- 3: 295 (capelin)
- 6: 1269 (Atlantic halibut)
- 6: 1313 (smelt)
- 6: 1451 (herring larvae)

Gulf of Maine

- 6: 1451 (larval herring in)

Gulf of St. Lawrence (see St. Lawrence, Gulf of)

H

Haddock (*Melanogrammus aeglefinus*) (biology)

- 3: 355 (drumming muscles)
- 4: 517 (Newfoundland landings)
- 4: 698 (abnormal flesh colour)
- 6: 1229 (otolith age determination)
- 6: 1239 (scale-otolith comparisons)
- 6: 1371 (mortality rates)

Haddock (technology)

- 4: 517 (quality of Newfoundland landings, round and gutted)
- 4: 698 (abnormal flesh pigmentation)

- 4: 701, 717, 729 (grading fish and fillets for quality)
- Halibut, Atlantic (*Hippoglossus hippoglossus*)
- 4: 825 (landings in relation to temperature and fishery)
- 6: 1269 (biology and fishery)
- Halibut, Pacific (*Hippoglossus stenolepis*)
- 4: 825 (landings in relation to temperature and fishery)
- Hart, John Lawson
- 5: 767
- 5: 833 (tagged lingcod)
- 6: 1127 (history and activities of St. Andrews Station)
- Hatcheries, fish
- 5: 785 (efficiency of)
- Heat budget and exchange
- 3: 429 (of sea in vicinity of Triple Is., B.C.)
- Heat tolerance
- 6: 1189 (giant scallops)
- Hecate Strait, B.C. (*see also* Triple Is.)
- 5: 775 (model)
- Heming L., Manitoba
- 2: 203 (limnological studies)
- Herring, Atlantic (*Clupea harengus*)
- 4: 625 (distribution and landings, in relation to temperature)
- 6: 1142 (review of investigations)
- 6: 1259 (fatness in Bay of Fundy)
- 6: 1329 (migrations in Passamaquoddy region)
- 6: 1383 (in food of cod)
- 6: 1451 (distribution of larvae)
- Herring, Pacific (*Clupea pallasi*)
- 3: 313 (fecundity)
- 5: 790 (investigations)
- 5: 909 (juvenile populations in Barkley Sound)
- History
- 5: 759, 779 (of Biological Station, Nanaimo, B.C.)
- 6: 1127 (of Biological Station, St. Andrews, N.B.)
- Hoar, William Stewart
- 2: 251 (salmon learning a constant course)
- 3: 391 (migratory behaviour of salmon)
- Hodder, Vincent Mackay
- 3: 355 (drumming muscles of haddock)
- Hollands, Mary
- 4: 587 (cruising speed of sockeye and coho)
- Hollister, Henry John
- 5: 851 (drift bottle releases in NE Pacific Ocean)
- Hoogland, Pieter Levinus
- 4: 717, 747 (statistical analysis of trimethylamine values in quality grading of fish)
- Hooknose Cr., B.C.
- 5: 1103 (pink and chum salmon production)
- Hourston, Alan Stewart
- 5: 909 (juvenile herring of Barkley Sound)
- Home L., Manitoba
- 2: 203 (limnology)
- Hudson Bay and Strait
- 2: 155 (physical oceanography)
- 2: 219 (bearded seals in)
- Huntsman, Archibald Gowanloch
- 6: 1131, 1135, 1152
- 6: 1213 (Shubenacadie salmon)
- Hyperactivity
- 4: 573 (cause of death in fish)
- Hypoxia
- 2: 229 (effect on salmon eggs)
- I
- Ice, Arctic
- 6: 1175 (discoloration in Foxe Basin)
- Index of return
- 5: 891 (for British Columbia salmon)
- Inheritance
- 3: 331 (of age at maturity in salmon)
- Inlets and fiords (*see also* Estuaries)
- 2: 196 (oceanography of eastern Arctic)
- Inspection, quality (*see* Quality)
- International Commission for the Northwest Atlantic Fisheries
- 6: 1150
- Irish moss (*Chondrus crispus*)
- 6: 1154 (review of investigations)
- J
- Jermolajev, Eugenie Germann
- 6: 1219 (Fundy zooplankton)
- Johnson, Waldo Eugene
- 5: 961 (young sockeye of Babine L., B.C.)

K

- Knight, Archibald Patterson
6: 1135
- Kohler, Allan Carl
6: 1229 (haddock ages from otoliths)
6: 1239 (haddock scale-otolith comparisons)
- Kokanee (*Oncorhynchus nerka*)
5: 961 (in Babine L., B.C.)

L

- Lactate
1: 27 (in blood of planted trout)
4: 573 (in blood of exercised fish)
- Laframboise, André
4: 555 (fatty acids of salt cod phospholipids)
- Lamprey, European river (*Lampetra fluviatilis*)
1: 47 (description and records)
- Lamprey, Pacific (*Entosphenus tridentatus*)
1: 47 (Pacific coast records)
- Lamprey, western (*Lampetra ayresii*)
1: 47 (description and records)
- Larvae
6: 1451 (distribution of herring)
- Laurentian Channel
6: 1247 (water layers in)
- Lauzier, Louis Marcel
6: 1247 (water layers in Laurentian Channel)
- Lawler, George Herbert
2: 203 (limnology of Heming L., Manitoba)
- Learning
2: 251 (of constant course by salmon fry)
- LeBrasseur, Robin John
1: 91 (salinity effects on shipworm incidence)
- Legaré, Joseph Eugène Henri
6: 1451 (larval herring distribution)
- Legendre, Rosaire
4: 543 (artificial drying of salt fish)
- Leim, Alexander Henry
6: 1135
6: 1259 (fatness of herring)
- Length distribution
6: 1451 (of herring larvae)
- Length-weight relationship
6: 1269 (Atlantic halibut)
6: 1313 (smelt)

Light (*see also* Candling; Radiation)

- 3: 391 (reaction of young salmon to)
6: 1403 (in relation to trout movements)
- Limnology
2: 203 (of Heming L., Manitoba)
4: 607 (temperature of Ontario lakes and Norris Reservoir)
5: 867 (Owikeno L., B.C.)
6: 1403 (temperature of Ellerslie Brook and estuary, P.E.I.)
- Lindahl, Per Eric
4: 685 (trinitrophenol preference of roach)
- Lingcod (*Ophiodon elongatus*)
5: 831 (mortality rates and yield)
- Liver burn
4: 517 (in haddock)
- Lobsters (*Homarus americanus*)
4: 625 (landings in relation to temperature and fishery)
6: 1138 (review of investigations)
6: 1345 (activity and catchability)
- Lockeport, N.S.
6: 1229 (haddock age determination)

Mc

- McCracken, F. D.
6: 1269 (Atlantic halibut)
- McFarlane, Alexander Stirling
4: 701 (grading fish and fillets for quality)
- McKenzie, Russell Alderson
6: 1313 (growth of smelt)
6: 1329 (Passamaquoddy herring migrations)
- McLaren, Ian Alexander
2: 219 (bearded seal)
- McLeese, Donald Wilson
6: 1345 (catchability of lobsters)
- McLellan, Hugh John
2: 115 (tidal energy in Bay of Fundy system)

M

- Mackerel (*Scomber scombrus*)
4: 625 (distribution and landings, in relation to temperature)
- Management
5: 867 (Rivers Inlet sockeye)
5: 991 (escapement needed for maximum yield)

- Marcström, Arne
 4: 685 (trinitrophenol preference of roach)
- Margolis, Leo
 5: 983 (*Corynosoma* in salmon)
- Marking (*see also* Tagging)
 1: 19 (for population estimation)
 5: 909 (juvenile herring)
- Masset, B. C.
 4: 625 (air temperatures)
- Maximum sustained yield
 5: 991 (from numerical models)
 5: 1007 (Skeena sockeye)
- Maxwell, Brian Edward
 1: 5 (abundance of sea-lions)
- Medcof, John Carl
 6: 1355 (control of clam drill)
- Migration and movements
 3: 391 (of young salmon)
 5: 787 (Pacific salmon)
 6: 1269 (Atlantic halibut)
 6: 1313 (spawning migration of smelt)
 6: 1329 (of herring in Passamaquoddy region)
 6: 1403 (of trout)
- Migratory behaviour
 3: 391 (evolution in salmon)
- Miller, Richard Birnie
 1: 27 (trout mortality affected by competition)
- Miramichi R., N.B.
 6: 1313 (growth of smelt)
- Mixing, of marine water masses
 2: 115 (tidal energy in Bay of Fundy system)
 3: 443 (effect on heat budget of sea)
 6: 1252 (in Laurentian Channel)
- Mixture of stocks
 5: 991 (effect on yield)
- Monstrosities
 2: 229 (produced by anoxia)
- Mortality
 1: 27 (in wild and planted trout)
 5: 909 (of young herring held in tanks)
 6: 1189 (of scallops at high temperature)
- Mortality rate
 4: 749 (estimating natural and fishing)
 5: 831 (estimate for lingcod)
- Movements (*see* Migration)
- Muscles
 3: 355 (in swim bladder of haddock)
- Muscle tissue (*see* Pigment; Protein)
- Mussels (*Mytilus*)
 4: 529 (as food for *Ocenebra*)
- Myosin
 2: 135 (extraction from cod muscle)
- N
- Nagasaki, Fuzuko
 3: 313 (fecundity of herring)
- Nanaimo Biological Station (*see* Fisheries Research Board of Canada Biological Station, Nanaimo, B.C.)
- Natural selection
 1: 27 (in trout)
 5: 887 (in sockeye)
- Needler, Alfred Walker Hollinshead
 5: 759 (history and activities of Nanaimo Station)
 6: 1147
- Nematodes (*see* *Porrocaecum*)
- Newfoundland
 3: 275, 295 (capelin in offshore area)
 4: 517 (round and gutted haddock landings)
 4: 695 (abnormal pigmentation of rose-fish, cod and haddock fillets)
- Nile Creek, B.C.
 5: 1103 (chum salmon survival)
- O
- Oceanography, Atlantic
 1: 79 (drift bottle experiments over Scotian Shelf)
 2: 115 (tidal energy in Bay of Fundy system)
 3: 295 (Grand Bank)
 6: 1150 (review of investigations)
 6: 1163 (currents in Strait of Belle Isle)
 6: 1247 (water layers in Laurentian Channel)
 6: 1451 (Georges Bank)
- Oceanography, Canadian Arctic
 2: 155 (physical)
 6: 1175 (discoloration of Foxe Basin ice)
- Oceanography, general
 3: 453 (solar radiation and photosynthesis)
- Oceanography, Pacific
 1: 91 (salinity effects on shipworm incidence)

- 3: 429 (heat budget of waters off Triple Is., B.C.)
 4: 625 (water temperatures)
 5: 794 (early work)
 5: 851 (drift bottles in NE Pacific Ocean)
 5: 1065 (drift bottles in Strait of Georgia)
Ocenebra japonica (Japanese oyster drill)
 4: 529 (food preferences)
- Odours
 4: 714, 734 (developed during fish spoilage)
- Otoliths
 3: 295 (of capelin)
 6: 1229 (for haddock age determination)
 6: 1239 (ages compared with scales in haddock)
- Owiken Lake, B.C.
 5: 867 (production of sockeye in)
- Oxygen, dissolved (*see also* Limnology; Oceanography)
 2: 229 (effect of scarcity on salmon eggs)
 4: 559 (effect on toleration of poisons)
 6: 1189 (and temperature acclimation of scallops)
- Oyster, Atlantic (*Crassostrea virginica*)
 6: 1140 (review of investigations)
- Oyster, Olympia (*Ostrea lurida*)
 4: 529 (consumption by *Ocenebra*)
- Oyster, Pacific (*Crassostrea gigas*)
 4: 529 (consumption by *Ocenebra*)
- P**
- Paloheimo, Jyri Erkki
 4: 749 (estimating mortalities)
 6: 1371 (mortality rates of cod and haddock)
- Parasites
 1: 1 (of porpoise)
 2: 203 (of fish in Heming L., Manitoba)
 4: 537 (detection in fillets by candling)
- Passamaquoddy Bay and vicinity, N.B.
 2: 115 (tidal energy in)
 6: 1329 (herring migrations)
 6: 1355 (clam control experiment)
- Perch (*Perca flavescens*)
 4: 607 (preferred temperature)
- Permeability of salmon spawning gravel
 5: 1027 (measurement of)
 5: 1103 (in relation to egg density)
- pH (*see also* Limnology; Oceanography)
 4: 573 (of blood of exercised fish)
- Phospholipids
 4: 555 (salt cod, fatty acids of)
- Photosynthesis in phytoplankton
 3: 458 (effects of solar radiation to ocean)
- Phytoplankton
 3: 453 (solar radiation and photosynthesis)
- Pigment
 4: 695 (absorption spectrum of, in red-fleshed rosefish; abnormal pigmentation in cod and haddock fillets)
- Pike (*Esox lucius*)
 2: 203 (in Heming L., Manitoba)
- Pike, Gordon Chesley
 1: 5 (abundance of sea-lions)
- Pilchard (*Sardinops caerulea*)
 5: 790 (investigations)
- Pitt, Thomas Kenton
 3: 275 (capelin)
 3: 295 (growth of capelin)
- Plaice, European (*Platessa platessa*)
 4: 625 (distribution and landings, in relation to temperature and fishery)
- Plankton (*see also* Phytoplankton; Zooplankton)
- Plankton, freshwater
 2: 203 (Heming L., Manitoba)
 5: 867 (Owiken Lake, B.C.)
- Plankton, marine
 6: 1219 (inner Bay of Fundy)
- Pollution
 4: 559 (tolerance of fish to)
- Polychaeta
 5: 801 (of western Canadian Arctic)
- Porpoise, common (*Phocoena phocoena*)
 1: 1 (parasites in)
- Porrocaecum
 1: 1 (in common porpoise)
 4: 495 (in seals)
 4: 537 (detection in Atlantic cod fillets by candling)
- Port John, B.C.
 2: 251 (salmon learning experiments)
- Power, Henry Edwin
 4: 537 (illumination for candling cod fillets)
- Powles, Percival Mount
 6: 1383 (cod reproduction and feeding)
- Pressure, atmospheric
 6: 1171 (effect on sea level and tidal flow)

Prices

- 6: 1269 (of Atlantic halibut and cod)

Prince, Edward Ernest

- 6: 1135

Protein

- 2: 135 (myosin in cod muscle)
- 4: 698 (percentage in rosefish fillet flesh)

Pruter, Alonzo Theodore

- 4: 625 (temperatures and fish yields)

Publications

- 6: 1154

Q

Quality

- 4: 521 (haddock fillets from round and gutted fish)
- 4: 701, 717, 729 (grading of cod, haddock, and fillets)

Queen Charlotte Is., B.C.

- 5: 1103 (chum salmon production)

R

Races

- 3: 275 (of capelin)

Radiation, heat and light

- 3: 432 (effect on heat budget of sea)
- 3: 453 (to ocean waters; photosynthesis; vision stimulation of zooplankton and fishes)

Redfish (*Sebastes marinus*)

- 4: 695 (absorption spectrum of pigment in red-fleshed)

Reed, Guilford Bevil

- 6: 1152

Reminiscences, of a Director

- 5: 779

Reproduction (*see also* Spawning)

- 2: 219 (of bearded seal)
- 6: 1383 (Gulf of St. Lawrence cod)

Retina

- 5: 815 (structure and responses of salmon)

Reviews

- 4: 559 (toleration of fish to pollution)
- 4: 573 (hyperactivity and death of fish)
- 4: 607 (preferred temperatures of fish)
- 4: 625 (climate and yield of marine fisheries)
- 5: 759 (work of Nanaimo Station)
- 6: 1127 (work of St. Andrews Station)

Ricker, William Edwin

- 5: (i) (Foreword)
- 5: 991 (sustained yield models)
- 6: (i) (Foreword)

Rigby, Captain E. G.

- 6: 1147

Rivers Inlet, B.C.

- 3: 331 (size and age of sockeye)
- 5: 867 (sockeye salmon fishery)

Roach (*Leuciscus rutilus*)

- 4: 685 (reaction to trinitrophenol)

Rodgers, Reginald St. Clair

- 4: 701 (grading fish and fillets for quality)

Rosefish (*see* Redfish)

S

Salinity (*see also* Oceanography)

- 3: 391 (reaction of young salmon to)
 - 6: 1403 (in relation to trout movements)
- Salmon, Atlantic (*Salmo salar*)
- 6: 1146 (review of investigations)
 - 6: 1213 (Shubenacadie R., N.S.)

Salmon, chinook (*Oncorhynchus tshawytscha*)

- 4: 573 (hyperactivity and death)
- 4: 607 (preferred temperature)

Salmon, chum (*Oncorhynchus keta*)

- 2: 229 (effect of low oxygen on eggs)
- 2: 251 (learning by fry)
- 3: 391 (behaviour of young)
- 5: 797 (effect of carbon dioxide on egg development)

- 5: 805 (resistance to low temperatures)

- 5: 1103 (factors affecting production)

Salmon, coho (*Oncorhynchus kisutch*)

- 3: 391 (behaviour of young)
- 4: 587 (cruising speed and temperature)

Salmon, Pacific (*see also* individual species)

- 2: 229 (low oxygen and eggs)
- 2: 251 (learning)
- 3: 391 (migratory behaviour)
- 5: 815 (structure of retina)
- 5: 909 (characteristics of schools of young)
- 5: 1027 (measuring seepage in spawning gravel)

Salmon, pink (*Oncorhynchus gorbuscha*)

- 2: 251 (learning by fry)
- 3: 391 (behaviour of young)
- 5: 787 (early investigations)
- 5: 891 (variation in survival)

- 5: 983 (*Acanthocephala* in)
 5: 1103 (factors affecting production)
- Salmon, sockeye (*Oncorhynchus nerka*)
 2: 251 (learning by fry)
 3: 331 (age at maturity)
 3: 391 (behaviour of young)
 4: 559 (toxicity of pulp mill wastes to)
 4: 573 (hyperactivity and death)
 4: 587 (cruising speed and temperature)
 4: 607 (preferred temperature)
 5: 805 (resistance to low temperatures)
 5: 867 (Rivers Inlet population and fishery)
 5: 891 (variation in survival)
 5: 961 (abundance and distribution in Babine L. area, B.C.)
 5: 983 (*Acanthocephala* in)
 5: 1007 (relation of spawners to catch on the Skeena)
- Salmon, spring (see Salmon, chinook)
- Salt fish
 4: 543 (drying by thermocouple control)
 4: 555 (fatty acids of salt cod phospholipids)
- Sampling error
 1: 19 (of population estimates)
- Sampling methods
 5: 909 (juvenile herring)
- Sand-launce (*Ammodytes americanus*)
 6: 1383 (as food of cod)
- Sand-launce (*Ammodytes tobianus*)
 5: 909 (characteristics of schools)
- Sandeman, Edward John
 4: 695 (absorption spectrum of pigment in red-fleshed rosefish)
- Sardines (see Herring, Atlantic)
- Sauger (*Stizostedion canadense*)
 4: 607 (preferred temperature and vertical distribution)
- Saunders, John Wilfred
 6: 1403 (trout movements)
- Scales
 3: 295 (of capelin)
 6: 1239 (ages compared with otoliths in haddock)
 6: 1313 (illustrations of smelt)
- Scallop, giant (*Placopecten magellanicus*)
 6: 1142 (review of investigations)
 6: 1189 (effect of temperature on survival)
- Scattergood, Leslie Wayne
 6: 1451 (larval herring distribution)
- Schnabel estimate
 1: 19
- Schools, of salmon
 2: 251 (learning)
- Schools, of small fish
 5: 909 (identification in the water)
- Schumacher estimate
 1: 19
- Scotian Shelf
 1: 79 (surface water circulation, drift bottles)
- Scott, David Maxwell
 1: 1 (*Porrocaecum* in porpoises)
 4: 495 (*Porrocaecum* in seals)
- Sea-lion, northern (*Eumetopias jubata*)
 1: 5
- Sea-perch (*Cymatogaster aggregatus*)
 5: 909 (characteristics of schools)
- Sea-run trout (*Salvelinus fontinalis*)
 6: 1403 (in Malpeque Bay, P.E.I.)
- Seal, bearded (*Erignathus barbatus*)
 2: 219
- Seal, grey (*Halichoerus grypus*)
 4: 495
- Seal, harbour (*Phoca vitulina*)
 4: 495
- Seal, harp (*Phoca groenlandica*)
 4: 495
- Seals, Atlantic
 4: 495 (*Porrocaecum* in)
 6: 1153 (review of investigations)
- Sediment
 6: 1175 (in discoloured Arctic ice)
- Selectivity
 5: 867 (gill nets for sockeye)
- Sex ratio
 3: 275 (capelin)
- Shad (*Alosa sapidissima*)
 6: 1153 (review of investigations)
- Shellfish
 5: 793 (early Pacific investigations)
 6: 1154 (in relation to public health)
- Shepard, Michael Perry
 5: 1007 (sockeye spawning and production)
- Shipworm (*Bankia setacea*)
 1: 91 (salinity effects on incidence in Fraser R. estuary)
- Shubenacadie River, N.S.
 6: 1213 (salmon)
- Size distribution
 3: 295 (capelin)

- 3: 331 (sockeye salmon)
 5: 961 (sockeye produced in Babine area, B.C.)
 Skeena River, B.C.
 3: 331 (size and age of sockeye)
 5: 1007 (sockeye production in relation to spawning stock)
 5: 1103 (pink salmon production)
 Skud, Bernard Einar
 6: 1329 (Passamaquoddy herring migrations)
 Smelt (*Osmerus mordax*)
 6: 1153 (review of investigations)
 6: 1313 (growth of Miramichi)
 Smith, Morden Whitney
 6: 1403 (trout movements)
 Smolts
 5: 867 (size of sockeye)
 5: 961 (sockeye produced in Babine area, B.C.)
 Spawning
 3: 275 (capelin)
 6: 1269 (Atlantic halibut)
 6: 1313 (Miramichi smelt)
 6: 1451 (herring of Bay of Fundy and Gulf of Maine)
 Spoilage (*see* Quality)
 St. Andrews Biological Station (*see* Fisheries Research Board of Canada Biological Station, St. Andrews, N.B.)
 St. Lawrence, Gulf of (*see also* Laurentian Channel)
 6: 1189 (scallop mortalities)
 6: 1269 (halibut stocks)
 6: 1383 (reproduction and food of cod)
 Staff
 6: 1155 (Biological Station, St. Andrews, N.B.)
 Standpipe, Mark VI
 5: 1027 (for measuring seepage through gravel)
 Statistics, catch
 4: 625 (selection)
 5: 831 (lingcod)
 5: 1007 (Skeena sockeye)
 6: 1213 (salmon catches in Minas Basin)
 6: 1269 (Atlantic halibut)
 Stickleback, three-spined (*Gasterosteus aculeatus*)
 5: 909 (characteristics of schools)
 Strait of Belle Isle, Nfld.
 6: 1163 (dominant flow of current)
 Strait of Georgia, B.C.
 5: 831 (vital statistics of lingcod)
 5: 1065 (drift bottle observations)
 Strickland, John Douglas Hipwell
 3: 453 (solar radiation to ocean)
 Surveys
 6: 1131 (from St. Andrews, 1912-1934)
 Survival
 4: 625 (critical stages)
 Swim bladder
 3: 355 (haddock)
 Swimming speed
 2: 251 (of salmon fry)
- T
- Tabata, Susumu
 1: 91 (salinity effects on shipworm incidence)
 3: 429 (heat budget of sea off Triple Is., B.C.)
 Tagging
 5: 831 (lingcod)
 5: 909 (juvenile herring)
 6: 1269 (Atlantic halibut)
 6: 1329 (small herring, on operculum)
 6: 1371 (use of returns for mortality rates)
 6: 1403 (trout in Ellerslie Brook, P.E.I.)
 Taylor, The Reverend George W.
 5: 760
 Temperature (*see also* Limnology; Oceanography)
 3: 275 (during capelin spawning)
 3: 391 (reaction of young salmon to)
 4: 587 (effect on cruising speed)
 4: 607 (preferred by various fishes)
 4: 625 (in relation to distribution and landings of commercial fishes; of air and water, Pacific coast)
 5: 805 (resistance of young salmon to cold)
 5: 867 (of Owikeno L., B.C.)
 6: 1189 (effect on scallop survival)
 6: 1269 (in relation to halibut distribution)
 6: 1345 (related to activity of lobsters)
 6: 1403 (of brooks and estuary, in relation to trout movements)
 Temple, Robert Frank
 6: 1451 (larval herring distribution)

Templeman, Wilfred

- 3: 355 (drumming muscles of haddock)
- 4: 517 (quantity and quality of haddock landings in Newfoundland)
- 4: 695 (absorption spectrum of pigment in red-fleshed rosefish)

Tench (*Tinca tinca*)

- 4: 573 (hyperactivity and death)

Terhune, Lorne Donald Bruce

- 6: 1027 (measuring seepage through gravel)

Thurber, Lou Wintford

- 6: 1355 (control of clam drill)

Tibbo, Simeon Noel

- 6: 1451 (larval herring distribution)

Tides (see also Oceanography)

- 5: 1096 (effect on drift bottles)

Tolerance

- 4: 559 (of fish to pollution)
- 6: 1345 (of lobsters to temperature)

Transparency of ocean waters (see Radiation)

Triaenophorus

- 2: 203 (Heming L. studies)

Trimethylamine

- 4: 521 (quality test for haddock fillets)
- 4: 701, 717, 729 (in quality grading of cod, haddock, and fillets)

Trinitrophenol

- 4: 685 (reaction of roaches to)

Triple Island, B.C.

- 3: 429 (heat budget of sea in vicinity)

Trites, Ronald Wilmot

- 1: 79 (surface water circulation over Scotian Shelf)
- 6: 1247 (water layers in Laurentian Channel)

Trout, brook (*Salvelinus fontinalis*)

- 4: 607 (preferred temperature)
- 6: 1145 (review of investigations)
- 6: 1403 (movements in fresh and salt water)

Trout, cutthroat (*Salmo clarki*)

- 1: 27 (competition and mortality)
- 5: 791 (early investigations)

Trout, hybrid

- 4: 607 (preferred temperature and vertical distribution in nature)

Trout, Kamloops (*Salmo gairdneri*)

- 4: 573 (effect of exercise on blood)

Trout, lake (*Cristivomer namaycush*)

- 4: 749 (vital statistics for L. Opeongo, Ont.)

Trout, rainbow (*Salmo gairdneri*)

- 4: 559 (toxicity of cyanide and detergents to)
 - 5: 791 (early investigations)
- Turbidity
- 6: 1403 (in relation to trout movements)

U

Ungava Bay

- 2: 155 (physical oceanography)
- 2: 219 (bearded seal)

V

Vancouver Island, B.C.

- 5: 1103 (chum and pink salmon production)

Vertebrae

- 3: 275 (number in capelin)

Vision, of zooplankton and fishes

- 3: 464 (stimulation by light)

Vessels, research

- 5: 766 (A. P. Knight)
- 5: 770 (*Investigator* No. I)
- 5: 773 (*Alta*)
- 6: 1129 (*Sea Gull*)
- 6: 1132 (*Edward E. Prince*)
- 6: 1137 (*Zoarces*)
- 6: 1146 (*J. J. Cowie*)
- 6: 1149, 1453 (*Harengus*)
- 6: 1453 (*Silver Bay*)

Virtual population method

- 4: 749 (modification of procedure)

Vladykov, Vadim Dmitrovich

- 1: 47 (*Lampetra ayresii*)

Volunteer investigators

- 5: 782 (at Nanaimo)
- 6: 1156 (and others, at St. Andrews)

W

Waldichuk, Michael

- 5: 1065 (drift bottle observations in Strait of Georgia)

Walleye, yellow (*Stizostedion vitreum*)

- 2: 203 (in Heming L., Manitoba)
- 4: 607 (preferred temperature and vertical distribution)

Wapun Lake, Manitoba

- 2: 203 (limnology)

Water level

- 5: 1103 (in relation to salmon spawning success)

- 6: 1403 (in relation to trout movements)

Watson, Nelson Herbert Frank

- 2: 203 (limnology of Heming L., Man.)

Whale, white (*Delphinapterus leucas*)

- 1: 1

White, Harley Clifford

- 6: 1143

Whitefish (*Coregonus clupeaformis*)

- 2: 203 (Heming L., Manitoba)

Whiting (*Merluccius bilinearis*)

- 4: 625 (distribution and landings, in relation to temperature and fishery)

Wickett, William Percy

- 2: 229 (salmon egg development with low oxygen)

- 5: 797 (carbon dioxide and salmon eggs)

- 5: 1103 (environmental effects on salmon production)

Wilder, Donald George

- 6: 1345 (catchability of lobsters)

Wind effects

- 1: 78 (on surface waters of Scotian Shelf)

- 5: 1097 (on drift bottles)

- 6: 1170 (on sea level)

- 6: 1178 (in discoloration of Arctic ice)

Withler, Frederick Curtis

- 5: 1007 (sockeye spawning and production)

Wood borers (*see also* Shipworm)

- 6: 1152 (review of investigations on)

Y

Yield (*see also* Statistics)

- 5: 831 (in relation to minimum size of lingcod)

- 5: 991 (computation from numerical models)

- 5: 1007 (of Skeena sockeye)

Z

Zooplankton (*see also* Plankton)

- 3: 464 (vision and stimulation by light)

- 6: 1186 (Foraminifera in Foxe Basin mud and ice)

